Amendments to the Specification:

Please add the following three new paragraphs before the first paragraph of page 22, which starts with "In order to provide additional context for various aspects of the present invention, Fig. 9 ...":

In one implementation, a system may facilitate utilizing an optical medium, the system may include a component that provides concurrent recordation of and playback from an optical medium, the playback starting at time (t_x) and the recordation starting at time (t_y), wherein $t_x \neq t_y$. Recordation may refer to a non-real-time data stream. Playback may refer to a real-time data stream. The component may dynamically adjust required data rates for playback of a real-time data stream. The system may further include a verification component that determines data transfer capabilities of the optical medium. The data transfer capabilities may include at least one of minimum data transfer rate, read speed, burn speed, seek times, or buffer size. The optical medium may include at least one of compact disc (CD) or a digital video disc (DVD). The optical medium may include audio data. The system may further include at least one buffer that holds information from playback of the medium. The at least one buffer may have a minimum buffer capacity that is a function of read speed and at least one seek time. The system may include a buffer controller that controls at least one of creation and use of at least one buffer. The buffer controller may perform a utility-based analysis in connection with buffer access. The utility-based analysis may be based in part on a probabilistic-based determination of cost associated with saving data to the buffer. The utility-based analysis may be based in part on a probabilistic-based determination of cost associated with retrieving data from the buffer. The optical medium may have a guaranteed minimum data transfer rate. The guaranteed minimum data transfer rate may be at least about 176 kilobytes per second. The system may include a component that provides concurrent playback of a plurality of data streams from the optical medium. The data streams may include audio data. The data streams may include at least a first data stream and at least a second data stream, such that the first data stream starts playing at t_x and the second data stream starts playing at t_y, wherein $t_x \neq t_y$. The system may include a continuity component that provides concurrent recordation of a plurality of data streams in parallel from the optical medium. The plurality of data streams may include at least a first data stream and at least a second data stream, such that the first data stream starts recording at t_x and the second data stream starts recording at t_y, wherein $t_x \neq t_y$. The continuity component may analyze a subset of the data streams and dynamically order reading of respective data streams of

the subset to mitigate stream break-up. The continuity component may analyze a subset of the data streams and dynamically prognose potential starvation of any of the data streams, and take remedial action to mitigate the starvation. The continuity component may employ a probabilistic-based utility analysis in connection with providing a prognosis.

In one implementation, a method of utilizing optical media may include initiating a first operation from the optical media at time t_x and initiating at least a second operation from the optical media at time t_y while the first operation is currently in progress, wherein $t_x \neq t_y$. The first operation may include reading a real-time data stream. The at least a second operation may include one of reading a real-time data stream and a non-real-time data stream. The first operation may include transferring the real-time data stream to a first buffer for temporary storage at a sufficient rate to allow the data stream associated with the second operation to transfer to a second buffer without interrupting the first operation. The first operation may further include, before the second operation begins, determining whether a calculated cost of accessing the optical media exceeds any one of the following: a threshold and a calculated cost of retrieving the data stored in the first buffer; and retrieving the data from the first buffer during the second operation when the calculated cost of accessing the optical media exceeds at least one of the threshold and the cost of retrieving the data from the first buffer. The method may include verifying data transfer capabilities of an optical hardware device that is employed to run the optical media. The verifying the data transfer capabilities may include performing at least one of the following: checking the optical hardware device to determine whether it is running in constant angular velocity (CAV) mode; determining at least one of seek times and read performance across the optical media for reading a non-real time data stream from the optical media; and determining whether minimum buffer requirements are satisfied. The minimum buffer requirements may be a function of read speed and seek times.

The determining read performance across the optical media to facilitate ascertaining the optical hardware device's ability to read the optical media may include: reading at least a first amount of data from the optical media such that the device's internal media cache is not concurrently caching the first amount of data when the reading of the first amount of data starts; and skipping ahead an increment of time that is sufficient to gain characteristic read performances across the optical media and repeat reading the amount of data from the optical media until substantially all of the optical media is read. The first amount of data may be about 8 megabytes. The increment of time may be about 5 minutes. Each amount of data may be substantially equal in size. The amount of data may be determined based at least in part upon the device's internal buffer size.

The determining seek times across the optical media to facilitate ascertaining the optical hardware device's ability to seek on the optical media may include: dividing the optical media into a number of sections, the number of sections comprising at least a first section and at least a second section, such that the device's internal cache does not pre-cache the data from the second section when told to read the start of the first section; and for all pairs of sections comprising any two sections, ensuring the device is reading from the first section and then causing the drive to seek to the second section to gain characteristic seek performances across the optical media. The sections may all be of substantially equal size. The section size may be determined based at least in part upon the device's internal buffer size. The ensuring to read from the first section may include reading an amount of data larger than the device's internal buffer size from some section other than the first and second sections. The ensuring to read from the first section may include sending a READ10 command with a force unit access (FUA) bit set to one. The causing the drive to seek to the second section may include using a READ10 command with a force unit access (FUA) bit set to one. The causing the drive to seek to the second section may include using a SEEK command. The section size may be about 5 minutes. The ensuring to read from the second section may include reading an amount of data larger than the device's internal buffer size from the first section.

In one implementation, a method of utilizing optical media may include starting to read at least a first real-time data stream from the optical media at time t_x and starting to read at a least a second real-time data stream from the optical media concurrently with the first real-time data stream at time t_y, wherein $t_x \neq t_y$. The first data stream may be played via a first playback output and the second data stream via a second playback output.

In one implementation, a method of utilizing optical media may include starting to read at least a first non-real-time data stream from the optical media at time t_x and starting to read at a least a second non-real time data stream from the optical media concurrently with the first non-real-time data stream at time t_y, wherein t_x is not equal to t_y.

In one implementation, a data packet may be adapted to be transmitted between two or more computer processes to facilitate reading multiple concurrent data streams from optical media, the data packet including information associated with reading a real-time data stream from the optical media at time t_x and concurrently reading a non-real-time data stream from the optical media at time t_y, wherein $t_x \neq t_y$.

In one implementation, a computer-readable medium has having a computer executable component that provides for concurrently reading a non-real-time data stream from optical media starting at t_y and reading a real-time data stream from the optical media starting at t_x, wherein $t_x \neq t_y$.

In one implementation, a system that facilitates employment of optical media includes a means for starting to read at least one real-time data stream from the optical media at time t_x and a means for starting to read one or more non-real-time data streams from the optical media concurrently while it is playing at time t_y, wherein $t_x \neq t_y$.

In one implementation, a recording system includes a component that provides concurrent recordation of and playback of respective media from an optical medium, the playback starting at time (t_x) and the recordation starting at time (t_y), wherein $t_x \neq t_y$ and includes an artificial intelligence (AI) component that performs a utility-based analysis in connection with the recordation and playback. The AI component may include a classifier. The AI component may infer when to initiate recordation. The AI component may include at least one of: a support vector machine (SVM), a naïve Bayes model, a Bayesian network, a decision tree, a Hidden Markov Model (HMM), neural network, data fusion engine. The recording system may include a verification component that determines data transfer capabilities of the optical medium. The data transfer capabilities may include at least one of minimum data transfer rate, read speed, burn speed, seek times and buffer size.